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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/779,879	02/18/2004	Rahul Magoon	26169-125-601	9499

7590 07/08/2004  
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EXAMINER

LAM, TUAN THIEU

ART UNIT	PAPER NUMBER
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2816

DATE MAILED: 07/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Applicant No.

10/779,879

Applicant(s)

MAGOON ET AL.

Examiner

Tuan T. Lam

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 May 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 10 is/are rejected.
- 7) ☒ Claim(s) 6-9 and 11 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 February 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>5/25/2004</u> .   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the limitation of “the loop inversions are implemented through suitable routing of differential mode lines or signals” in claim 5 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled “Replacement Sheet” in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-5 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Wong (USP 5,425,074). Figure 9 shows a programmable frequency divider comprising a plurality of edge triggered storage elements (flip flop circuits) arranged in at least one loop, wherein each of the elements has a state ( Q or QM), a clock input (CK), wherein the state of each storage element is determined responsive to the clock input (CK), the state of one or more previous elements in the loops (state of the second flip flop dependent upon the output of the first flip flop), a characteristics of division ratio (select signal 92 or enable signal 96), and the output signal is derived from the state of at least one of the element in the loop, a circuit for determining the number of elements in the loop responsive to the desired ratio (multiplexer 101) as called for in claims 1 and 10.
3. Regarding claim 2, the inversion loop is one which is an odd number.
4. Regarding claim 3, the inverter is seen as an inverter coupled to the output of the circuit 101 of figure 9.
5. Regarding claim 4, Q and QM are differential signals.
6. Regarding claim 5, when the selection signal calls for even division ratio, the frequency of the output signal is  $2F$  (F is the number of storage elements), and when the selection signals calls for odd division ratio, the frequency of the output signal is  $2F-1$ . Therefore, the limitations of claim 5 are fully met.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1-5 and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Shurboff et al. (USP 5,859,890). Figure 1 of Shurboff et al. shows a programmable frequency divider comprising a plurality of edge triggered storage elements (flip flop circuits 128) arranged in at least one loop, wherein each of the elements has a state ( Q or Q/), a clock input (CLK), wherein the state of each storage element is determined responsive to the clock input (CK), the state of one or more previous elements in the loops (state of the second flip flop dependent upon the output of the first flip flop), a characteristics of division ratio (MC), and the output signal is derived from the state of at least one of the element in the loop, circuit for determining the number of elements in the loop responsive to the desired ratio as called for in claims 1 and 10.

Regarding claims 2-3, the inversion loop is one and the inverter is seen as a NOT (small circuit at the output of the MUX 12) symbol.

Regarding claim 4, the output of the flip flop circuits are differential signals as shown in figure 4.

Regarding claim 5, when the mode control signal MC calls for even division ratio, the frequency of the output signal is  $2F$  ( $F$  is the number of storage elements), and when the mode control signal calls for odd division ratio, the frequency of the output signal is  $2F-1$ . Therefore, the limitations of claim 5 are fully met.

***Allowable Subject Matter***

2. Claims 6-9 and 11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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***Conclusion***

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan T. Lam whose telephone number is 571-272-1744. The examiner can normally be reached on Monday to Friday (7:30 am to 6:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, TIMOTHY P CALLAHAN can be reached on 571-272-1740. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Tuan T. Lam  
Primary Examiner  
Art Unit 2816

7/2/2004